

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name:	N,N-Diethylhydroxylamine
Synonyms:	Ethanamine, N-Ethyl-N-Hydroxy-; N,N-Diethylhydroxylamine; Diethylhydroxylamine; DEHA
Cat. No.:	T2005-089
CAS No.:	3710-84-7
EC No.:	223-055-4

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses:	Laboratory chemicals, manufacture of substances.
Uses advised against:	No uses advised against.

1.3 Details of the supplier of the SDS

Manufacturer:	Hefei TNJ Chemical Industry Co.,Ltd.
Address:	D1508 Xincheng Center, Qianshan Road, Zhengwu District,Hefei, Anhui 230022 China
E-mail:	sales@tnjchem.com
Telephone:	+ 86 551 65418684
Fax:	+ 86 551 65418697

1.4 Emergency telephone number

In China: + 86 551 65418684 (Monday to Friday, 8:30a.m. to 5:30p.m.,Beijing Time)

Section 2: Hazards identification


2.1 Classification of the substance or mixture

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 3
Acute dermal toxicit y	Category 4
Acute Inhalation Toxicity - Vapors	Category 4
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system	

2.2 GHS Label elements, including precautionary statements

Hazard pictogram(s):	
Signal word:	Warning
Hazard Statements:	<p>Hazard Statements Flammable liquid and vapor May cause respiratory irritation Harmful in contact with skin or if inhaled</p> <p>Precautionary Statements</p> <p>Prevention Wear protective gloves/protective clothing/eye protection/face protection Avoid breathing dust/fume/gas/mist/vapors/spray Use only outdoors or in a well-ventilated area Keep away from heat/sparks/open flames/hot surfaces. - No smoking Keep container tightly closed Ground/bond container and receiving equipment Use explosion-proof electrical/ventilating/lighting equipment Use only non-sparking tools Take precautionary measures against static discharge Keep cool</p> <p>Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell</p> <p>Skin Call a POISON CENTER or doctor/physician if you feel unwell Wash contaminated clothing before reuse IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower</p> <p>Fire In case of fire: Use CO₂, dry chemical, or foam for extinction</p> <p>Storage Store in a well-ventilated place. Keep container tightly closed Store locked up</p> <p>Disposal Dispose of contents/container to an approved waste disposal plant</p>

2.3 Other hazards

Hazards not otherwise classified (HNOC)

Toxic to aquatic life with long lasting effects

Section 3: Composition/information on ingredients

3.1 Component information

Ingredients	CAS No.	EC No.	Content (%)
Ethanamine, N-ethyl-N-hydroxy-	3710-84-7	223-055-4	>95

Section 4: First aid measures

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Ingestion

Do NOT induce vomiting. Call a physician or poison control center immediately.

Most important symptoms and effects

Difficulty in breathing. . Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

Notes to Physician

Treat symptomatically

Section 5: Fire-fighting measures

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO₂). Dry chemical. Chemical foam. Water mist may be used to cool closed containers.

Unsuitable Extinguishing Media

No information available

Flash Point

45 °C / 113 °F

Method -

No information available

Autoignition Temperature

No information available

Explosion Limits

- Upper 10.00%

- Lower 1.90%

Sensitivity to Mechanical Impact

No information available

Sensitivity to Static Discharge

No information available

Specific Hazards Arising from the Chemical

Flammable. Vapors may travel to source of ignition and flash back. Vapors may form explosive mixture with air. Containers may explode when heated. Vapors may form explosive mixtures with air.

Hazardous Combustion Products

Nitrogen oxides (NO_x). Carbon monoxide (CO). Carbon dioxide (CO₂).

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full

NFPA

Health	Flammability	Instability	Physical hazards
2	2	1	N/A

Section 6: Accidental release measures

Personal Precautions

Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions

Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information. Avoid release to the environment. Collect spillage.

Methods for Containment and Clean Up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment

Section 7: Handling and storage

Handling

Avoid contact with skin and eyes. Do not breathe mist/vapors/spray. Handle product only in closed system or provide appropriate exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges.

Storage

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat, sparks and flame. Flammables area. Incompatible Materials. Strong oxidizing agents. Strong acids. Metals. copper. Butyl rubber.

Section 8 : Exposure controls/personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Ethanamine, N-ethyl-N-hydroxy-	TWA: 2 ppm			

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

Engineering Measures

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910. 133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910. 134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and chemical properties

Physical State Liquid

Appearance No information available

Odor Amine compounds

Odor Threshold No information available

pH No information available

Melting Point/Range -26 - -25 °C / -14.8 - -13 °F

Boiling Point/Range 125 - 130 °C / 257 - 266 °F @ 760 mmHg

Flash Point 45 °C / 113 °F

Evaporation Rate No information available

Flammability (solid,gas) Not applicable

Flammability or explosive limits

-Upper 10.00%

- Lower 1.90%

Vapor Pressure 4 mmHg @ 20 °C

Vapor Density 3.1

Specific Gravity 0.867

Solubility No information available

Partition coefficient; n-octanol/water No data available

Autoignition Temperature No information available

Decomposition Temperature > 120°C

Viscosity No information available

Molecular Formula C4 H11 N O

Molecular Weight 89.14

Section 10: Stability and reactivity

Reactive Hazard

None known, based on information available

Stability

Hygroscopic.

Conditions to Avoid

Keep away from open flames, hot surfaces and sources of ignition. Incompatible products.

Exposure to moist air or water.

Incompatible Materials

Strong oxidizing agents, Strong acids, Metals, copper, Butyl rubber

Hazardous Decomposition Products

Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO₂)

Hazardous Polymerization

Hazardous polymerization does not occur.

Hazardous Reactions

None under normal processing.

Section 11: Toxicological information

Acute Toxicity

Product Information
Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethanamine, N-ethyl-N-hydroxy-	2190 mg/kg (rat)	1300 mg/kg (rat)	11.4 mg/L/4h (rat)

Toxicologically Synergistic No information available

Products**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

Irritation Irritating to respiratory system

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Ethanamine, N-ethyl-N-hydroxy-	3710-84-7	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects Animal experiments showed mutagenic and teratogenic effects

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Respiratory system

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms/effects, both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

Section 12: Ecological information**Ecotoxicity**

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Persistence and Degradability Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Ethanamine, N-ethyl-N-hydroxy-	-0.17

Section 13: Disposal considerations**Waste Disposal Methods**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and

Section 14: Transport information

DOT
UN-No UN1993
Proper Shipping Name Flammable liquid, n.o.s.
Technical Name Ethanamine, N-ethyl-N-hydroxy-
Hazard Class 3
Packing Group III

TDG
UN-No UN1993
Proper Shipping Name Flammable liquid, n.o.s.
Hazard Class 3
Packing Group III

IATA
UN-No UN1993
Proper Shipping Name Flammable liquid, n.o.s.
Hazard Class 3
Packing Group III

IMDG/IMO
UN-No UN1993
Proper Shipping Name Flammable liquid, n.o.s.
Hazard Class 3
Packing Group III

Section 15: Regulatory information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification Active-Inactive	TSCA - EPA Regulatory Flags
Ethanamine, N-ethyl-N-hydroxy-	3710-84-7	X	ACTIVE	-

Legend:
TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed
TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Ethanamine, N-ethyl-N-hydroxy-	3710-84-7	X	-	223-055-4	X	X	X	X	X	KE-13827

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

U.S. Federal Regulations

SARA 313	Not applicable
SARA 311/312 Hazard Categories	See section 2 for more information
CWA (Clean Water Act)	Not applicable
Clean Air Act	Not applicable
OSHA - Occupational Safety and Health Administration	Not applicable
CERCLA	Not applicable
California Proposition 65	This product does not contain any Proposition 65 chemicals.
U.S. State Right-to-Know Regulations	Not applicable
U. S. Department of Transportation Reportable Quantity (RQ):	N
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N
U. S. Department of Homeland Security	This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Authorisation/ Restrictions according to EU REACH

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Ethanamine, N-ethyl-N-hydroxy-	3710-84-7	Listed	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Ethanamine, N-ethyl-N-hydroxy-	3710-84-7	Not applicable	Not applicable	Not applicable	Not applicable

Section 16: Other information
None
Declare to reader
<p>The information in this Safety Data Sheet (SDS) was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. According to REACH Article 31(5), the SDS shall be supplied in an official language of the Member State(s) where the substance or mixture is placed on the market, unless the recipient Member State(s) concerned provide otherwise. It should also be noted that this SDS is applicable to the countries with English as an official language.</p>